

Markscheme

May 2015

Economics

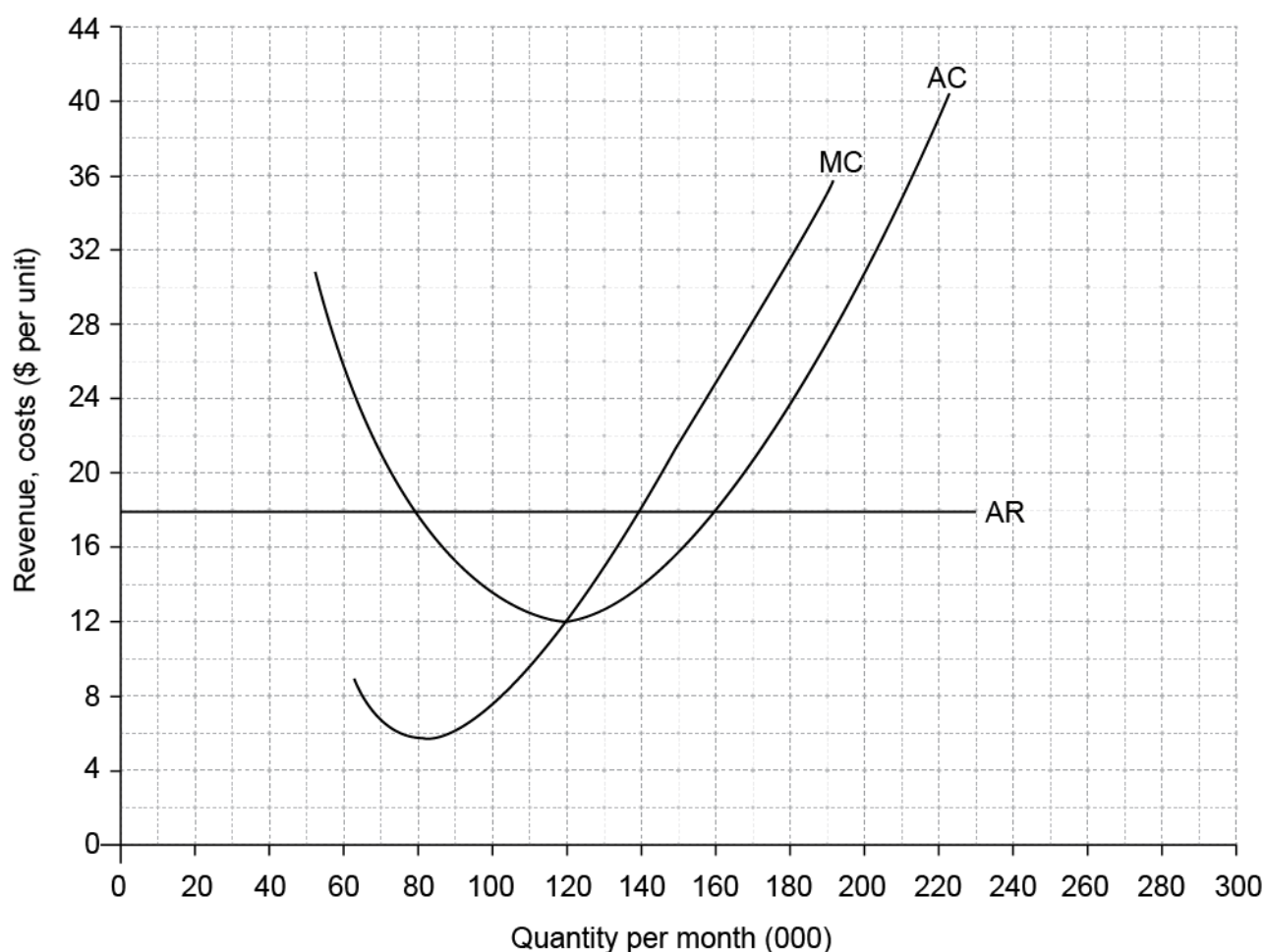
Higher level

Paper 3

Notes for examiners:

1. Whenever relevant, carry over marks must be awarded. If a candidate makes an error in calculation, but then uses the incorrect figure appropriately and accurately in later question parts, then the candidate may be fully rewarded. This is the “own-figure rule” and you should put OFR on the script where you are rewarding this. To do this you will need to use the on-page comment annotation tool (T).
2. Alternative approaches may be taken in responses to the [4] questions that use A02 command terms. If this is the case and the alternative approaches are valid, then full credit should be given.

1. (a) (i) On the diagram, draw and label the average revenue curve for Firm A. [2]



For an accurate average revenue curve.

For an accurate, labelled average revenue curve.

[1]

[1]

- (ii) Calculate Firm A's total revenue if it produces 180 000 units per month. [2]
- Total revenue = $180\,000 \times 18$ [1]
- Any valid working is sufficient for [1].*
- = \$3 240 000 [1]
- An answer of \$3 240 000 or 3 240 000 without any valid working is sufficient for [1] only.*
- Since both AR and quantity are given, OFR does not apply.*
- (iii) Identify Firm A's short-run profit maximizing level of output. [1]
- Profit-maximizing level of output = 140 000 (*the term "units" is not necessary*)
- OR**
- 120 000 units (*the term "units" is not necessary*) to allow for maximum profit if measured using the diagram provided [1]
- OFR applies if AR (=MR) curve has been drawn in the wrong position.*
- (iv) Calculate Firm A's short-run abnormal profit/loss at the level of output identified in part (iii). [2]
- At output 140 000
- Total revenue = $AR \times Q = 18 \times 140\,000 = 2\,520\,000$
- Total cost = $AC \times Q = 14 \times 140\,000 = 1\,960\,000$ [1]
- Any valid working is sufficient for [1].*
- Profit = $2\,520\,000 - 1\,960\,000 = \$560\,000$ [1]
- OFR from part (iii) applies; no OFR applies within part (iv).*
- (b) With reference to the diagram, identify the long-run equilibrium price and level of output for Firm A. [2]
- $P = \$12$ [1]
- $Q = 120\,000$ (*the term "units" is not necessary*) [1]
- (c) Explain, using the diagram, how Firm A will move from short-run equilibrium to long-run equilibrium. [4]
- | Level | | Marks |
|-------|---|-------|
| 0 | <i>The work does not reach a standard described by the descriptors below.</i> | 0 |
| 1 | <i>The written response is limited.</i>
For an explanation that the existence of abnormal profits (of \$560 000) in the short run will attract new firms into the industry. | 1–2 |
| 2 | <i>The written response is accurate.</i>
For an explanation that the existence of abnormal profits (of \$560 000) in the short run will attract new firms into the industry and that this will increase market supply and consequently cause price to decrease until abnormal profits are competed away (at a price of \$12). | 3–4 |
- A response which makes no direct reference to the diagram may be awarded a maximum of [3].*

(d) Define the term *satisficing*. [2]

Level	Marks
0 <i>The work does not reach a standard described by the descriptors below.</i>	0
1 <i>Vague definition.</i> The idea that a firm tries to make enough profit.	1
2 <i>Accurate definition.</i> The idea that a firm tries to make enough profit <ul style="list-style-type: none"> • in order to satisfy different stakeholders OR <ul style="list-style-type: none"> • in order to pursue other objectives OR <ul style="list-style-type: none"> • because decision makers do not have the necessary information in order to maximize profits. 	2

(e) Define the term *non-collusive*. [2]

Level	Marks
0 <i>The work does not reach a standard described by the descriptors below.</i>	0
1 <i>Vague definition.</i> The idea that firms act independently.	1
2 <i>Accurate definition.</i> The idea that firms do not come together to set agreements on price and/or output.	2

(f) Calculate the price elasticity of demand if

(i) price increases to \$12; [2]

$$PED = \frac{\% \Delta Q}{\% \Delta P} = \frac{59.09}{20} \quad [1]$$

Any valid working is sufficient for [1].

$$= 2.95 \text{ (or } -2.95) \quad [1]$$

An answer of 2.95 (or –2.95) without any valid working is sufficient for [1] only.

Correct use of negative sign for ΔQ and PED may be present but is not necessary.

N.B. Candidates who use an accurate midpoint formula may be fully rewarded.

$$\frac{13}{15.5} \times \frac{11}{2}$$

$$= 4.61 \text{ or } -4.61$$

An answer of 4.61 (or –4.61) without any valid working is sufficient for [1] only.

(ii) price decreases to \$4. [2]

$$PED = \frac{\% \Delta Q}{\% \Delta P} = \frac{27.27}{60} \quad [1]$$

Any valid working is sufficient for [1].

$$= 0.45 \text{ or } -0.45 \quad [1]$$

An answer of 0.45 (or –0.45) without any valid working is sufficient for [1] only.

Correct use of negative sign for ΔP and PED may be present but is not necessary.

N.B. Candidates who use an accurate midpoint formula may be fully rewarded.

$$\frac{6}{25} \times \frac{7}{6}$$

$$= 0.28 \text{ or } -0.28$$

An answer of 0.28 (or –0.28) without any valid working is sufficient for [1] only.

- (g) Using the diagram and your answers to part (f), explain why price rigidities exist in non-collusive oligopolistic markets.

[4]

Level

Marks

0 *The work does not reach a standard described by the descriptors below.*

0

1 *The written response is limited.*

1–2

For an explanation that the firms may be unwilling to increase or reduce price because they will be worse off in either case.

2 *The written response is accurate.*

3–4

For an explanation that if they increase price they may expect rivals not to follow so that demand is elastic and revenue would decrease. On the other hand, if they cut price they may expect rivals to follow so that demand is relatively inelastic and the firm will be again worse off. Therefore it is not in the firm's interest to change price.

OR

An explanation that, for the profit-maximizing oligopolist who predicts that rival(s) will not follow a price increase but will follow a price cut so there is a range of cost conditions (possible positions of the MC curve) which would intersect the MR curve within the resulting discontinuity at the current level of output. It is therefore relatively likely that the oligopolist will choose to leave price/output unchanged.